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| 10/749,029      | 12/30/2003  | Roger M. Ikeda       | TI-37411            | 9231             |

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| EXAMINER |
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RAHMJOO, MANUCHER

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| ART UNIT | PAPER NUMBER |
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2624

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| NOTIFICATION DATE | DELIVERY MODE |
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11/01/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com  
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|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/749,029 | <b>Applicant(s)</b><br>IKEDA, ROGER M. |  |
|                              | <b>Examiner</b><br>Mike Rahmjoo      | <b>Art Unit</b><br>2624                |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 October 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 11-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9, 11-20 is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1- 3,6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Morgan et al (US Patent 6453067), hereinafter, Morgan.

As per claim 1 Morgan teaches a control module (corresponding to fig. 9 block 904,906, and 912) for use in a display system (corresponding to fig. 9 system 902);  
a gain module (see for example fig. 9 block 904 and abstract) operable to amplify a signal received by the control module (see for example fig. 9 blocks 904,906, and 912) and to communicate an amplified signal (the RGB signal through block 904) having at least one clipped pixel (see for example the 24 bit RGB signal adjusted based on a maximum of the three primary color in column 13 line 15), wherein the at least one clipped pixel is capable of generating a color having a hue that is substantially different than a hue of a color that was specified by the signal corresponding to for example maximum single color available from a color wheel which produces a sequence of differently colored images and is capable of modulating one of the primary colors in column 4 lines 60- 67;

and a formatter coupled to the gain module, the formatter operable to receive the amplified signal and to adjust the hue of the color associated with the at least one clipped pixel and a saturation level associated with the color that was specified by the signal (col. 13 line 13- 14 wherein adjusting gain level; gain level which formerly is calculated based on saturation level), wherein the hue of the color associated with the at least one clipped pixel is adjusted to substantially the hue of the color that was intended to be generated by the signal corresponding to for example fig. 9 block 906 and 912 which perform the hue correction and formatting of data and column 13 line 15 and the abstract.

As per claim 2 Morgan implicitly teaches the formatter includes a hue correction algorithm that adjusts the hue of the at least one clipped pixel to substantially the hue of the color that was specified by the signal corresponding to hue correction for example in column 9 line 17 through the use of hue correction equations which entail algorithms associated therein.

As per claim 3 Morgan broadly teaches the hue correction algorithm adjusts a saturation level associated with the color that was specified by the signal to a specified color corresponding to saturation correction associated with hue for example column 13 lines 8- 17.

As per claim 6 Morgan teaches a spatial light modulator operable to receive the hue adjusted signal corresponding ( block 914 SLM of fig. 9) to for example fig.9.

As per claim 7 Morgan teaches the spatial light modulator is selected from the group consisting of a digital micro-mirror device, a reflective liquid crystal modulator, and a light emitting diode modulator corresponding to for example column 3 lines 25-30 which discloses LCD and DMD (digital micro mirror device).

As per claim 8 Morgan broadly teaches a memory coupled to the formatter and capable of storing data associated with a hue correction algorithm corresponding to for example RAM banks a, b; a video processing module (see for example block 906 of fig. 9) coupled to the gain module and capable of processing the signal received by the control module on a frame-by-frame basis corresponding to for example column 6 line 62 wherein video is processed on the basis of RGBW and stored; Morgan implicitly teaches a processor (see for example column 2 line 30 for the image data processing system which deals with words or bits of data as an indication of processing performed through the system) capable of determining a position of an adjustable aperture based at least in part on a maximum number of clipped pixels corresponding to for example column 4 lines 60- 67 wherein maximum color is available through a color wheel as corresponding to an adjustable aperture.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan in view of Zhao et al (US PAP 2003/ 0194131), hereinafter, Zhao.

As per claims 4-5 Morgan does not teach adjusting the hue of the color associated with the clipped pixel and the saturation level associated with the color that was specified by the signal to a color having a substantially similar hue and a substantially similar and different saturation levels as the color that was specified by the signal.

However, Zhao teaches adjusting the hue of the color associated with the clipped pixel and the saturation level associated with the color that was specified by the signal to a color having a substantially similar hue and a substantially similar and different saturation levels as the color that was specified by the signal corresponding to for example [0053] and [0063] wherein pixel 302 and its corresponding pixel 312, they are likely to have similar values for their hue, saturation, and value components. Pixel 304 and its corresponding pixel 314 are likely to have very different values for their hue, saturation, and value components.

It would have been made obvious to one of ordinary skilled in the art at the time the invention was made to incorporate the teachings of Zhao into Morgan to perform clipping and object segmentation and therefore accurately distinguish objects and attributes therefrom, thus improving the efficiency of the device see for example [0011].

***Allowable Subject Matter***

Claims 9, 11- 20 are allowed.

***Response to Arguments***

Applicant's arguments filed 10/09/2007 have been fully considered but they are not persuasive.

As per applicant's remarks on page 8- 9, applicant recites "Zhao merely discloses determining whether a pixel is in the foreground or a background of a frame by comparing the pixel to a second pixel in a second frame, but Zhao does not teach or suggest adjusting the hue and saturation level, and Zhao certainly does not teach or suggest adjusting the hue and saturation level".

Examiner respectfully disagrees.

Examiner points out to [0067] Zhao which recites "the object extraction system 130 deals with shadows by adjusting a threshold  $\alpha_{sub.K}$  for a component K (where K may represent hue, saturation, or value of a pixel). The threshold is used in the pseudocode in Table A". Therefor said elements are clearly recited in Zhao which make a reference to table A which is explained in [0063] as values of in the foreground and background pixels. Said values as pointed out by applicant are clearly compared to each other. Morgan, on the other hand, is very much geared towards adjusting colors of the pixels as noted and rejected in the portions made of the record. Applicant further repeats the same arguments for claim 5 on page 9.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

As per applicant's remarks on page 9- 10, applicant argues "the Office Action fails to point to both a gain module and a formatter, where the formatter is coupled to the gain module ".

Examiner respectfully disagrees.

Examiner points out to the rejection made of the record which recites "fig. 9 block 906 and 912 which perform the hue correction and formatting of data". Said modules are clearly coupled as shown in fig. 9.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.



### **Inquiry**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Rahmjoo whose telephone number is 571-272-7789. The examiner can normally be reached on 8 AM- 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Bella can be reached on 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mike Rahmjoo

October 19, 2007



**MATTHEW C. BELLA  
SUPERVISORY PATENT EXAMINER  
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